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CLAIMS

1. Process for finish-machining of bearing positions on main bearing journals and connecting rod bearing journals of crankshafts for motor car engines, whereby the crankshafts have roundings between the bearing positions and the transitions adjacent in each case to the bearing positions, such as for example cheeks or adapting bearings, characterised in that
 - the roundings (4) are deep rolled with a deep rolling tool and then, maintaining a distance interval (17) to the individual transition (7) in each case,
 - the bearing position (11) concerned is machined with removal of material with a small cutting depth (18, 20).
2. Process according to Claim 1, characterised in that the rolling-in depth (13) at the deep rolling of the roundings (14) is between 0.1 and 0.5 mm, preferably 0.2 mm.
3. Process according to Claims 1 and 2, characterised in that the cutting depth (18, 20) during the final material-removing machining of the bearing positions (11) amounts to between 0.1 and 0.5 mm, preferably 0.25 mm.
4. Process according to Claim 3, characterised in that machining with removal of material is carried out with unspecified cutting edge by grinding.
5. Process according to Claim 4, characterised in that

machining is carried out with a grinding wheel which has an edge radius of up to 1 mm, preferably 0.5 mm.

6. Process according to Claim 3, characterised in that working with removal of material takes place with specific cutting edge by milling, turning, broaching, turn-broaching, or turn-turn-broaching.
7. Process according to any one of Claims 1 to 6, characterised in that the distance interval (17) between the cheek (7) and the bearing position (11) in each case is between 0.5 and 5 mm, preferably 1 mm.
8. Crankshaft (1) with main bearing journals (2) and connecting rod bearing journals (3), of which the bearing positions (11) were finish-machined in accordance with any one of Claims 1 to 7, characterised in that it has tangent radii (15) between the transition areas (14) and the individual bearing positions (11) in each case.